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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,401	02/22/2002	Teruyuki Ishibashi	020217	7012

23850 7590 07/16/2003

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EXAMINER	
DOLE, TIMOTHY J	
ART UNIT	PAPER NUMBER
2858	

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/079,401	Applicant(s) ISHIBASHI ET AL.
	Examiner Timothy J. Dole	Art Unit 2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 22 February 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: "good" should be "defective" on page 23, line 11.

Appropriate correction is required.

2. Claims 4, 6 and 10 are objected to because of the following informalities: claim 4 recites the limitation "the increments" on line 8, which lacks antecedent basis. Claim 6 should read, "...is good on the basis of said reference characteristic values..." on line 14. In claim 10, "said first poorness waveform" should be "said second poorness waveform" on lines 3-4. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, and 4-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Strong et al. (USPN 5,937,505).

Referring to claim 1, Strong et al. discloses a method for testing the crimped state of a terminal on the basis of a waveform of the characteristic values obtained in the process of crimping the terminal on a core of an electric wire, comprising the steps of:

acquiring a reference waveform from the characteristic waveform when the terminal has been crimped normally (column 6, line 54 – column 7, line 10), and dividing the reference waveform into first plural reference waveform segments (column 6, lines 51-53); dividing a characteristic waveform obtained when a terminal to be tested is crimped on the electric wire into a plural segments corresponding to those of the reference waveform (column 6, lines 34-37); and deciding whether or not the crimped state of the terminal is good on the basis of the first reference waveform segments of the reference waveform and the waveform segments of the characteristic waveform (column 6, lines 42-45).

Referring to claim 2, Strong et al. discloses the method as claimed wherein singular points of the reference waveform are previously acquired on the basis of increments of the reference waveform (column 6, lines 51-53); and said first reference waveform segments contain said singular points (column 6, lines 38-41).

Referring to claim 4, Strong et al. discloses a method for testing the crimped state of a terminal on the basis of a waveform of the characteristic values obtained in the process of crimping the terminal on a core of an electric wire, comprising the steps of: acquiring a reference waveform from the characteristic waveform when the terminal has been crimped normally (column 6, line 54 – column 7, line 10); acquiring singular points of the reference waveform on the basis of increments thereof (column 6, lines 51-53); acquiring second reference waveform segments which are segments containing the singular points (column 6, lines 38-41); acquiring second waveform segments containing the points corresponding to said singular points in the characteristic waveform obtained

when the terminal to be tested has been crimped on the electric wire (column 6, lines 34-37); and deciding whether or not the crimped state of the terminal is good on the basis of said second reference waveform segments and said second waveform segments (column 6, lines 42-45).

Referring to claim 6, Strong et al. discloses a method for testing the crimped state of a terminal on the basis of a waveform of the characteristic values obtained in the process of crimping the terminal on a core of an electric wire, comprising the steps of: acquiring a reference waveform from the characteristic waveform when the terminal has been crimped normally (column 6, line 54 – column 7, line 10), and acquiring reference characteristic values at regular intervals of the reference waveform (column 6, lines 51-53); acquiring the characteristic values of the characteristic waveform obtained when the terminal to be tested has been crimped on the electric wire, at said regular intervals (column 6, lines 34-37); and deciding whether or not the crimped state of the terminal is good on the basis of said reference characteristic values and the characteristic values (column 6, lines 42-45).

Referring to claim 5, Strong et al. discloses the method as claimed wherein said singular points are points where the increment of said reference waveform is maximum or zero (column 4, lines 32-40). It should be noted that since the measurements are taken with such a small sampling interval, the singular points would exist at points where the increment of the reference waveform is maximum or zero.

Referring to claim 7, Strong et al. discloses the method as claimed wherein said electric wire has a coating for coating said core (fig. 1), said terminal has caulking legs

for caulking said core (fig. 1), a first poorness waveform (column 6, lines 34-37) is acquired from the waveform when said calking legs caulk said coating as well as said core (column 1, lines 33-35), and a first singular point of said singular points is acquired from said reference waveform and said first poorness waveform (column 6, lines 51-53).

Referring to claim 8, Strong et al discloses the method as claimed wherein said first singular point is defined by a point where the characteristic value of said first poorness waveform exceeds that of said reference waveform as the time of a crimping operation elapses (column 6, lines 44-47). It should be noted that if the core crimping section additionally crimps the coating of the wire, the poorness waveform would exceed the reference waveform since more force would initially be needed to puncture the coating.

Referring to claim 9, Strong et al. discloses the method as claimed wherein said core is composed of a plurality of conductors tied up in a bundle (fig. 1); said terminal has caulking legs for caulking said core (fig. 1); a second poorness waveform is acquired from the characteristic waveform when said caulking legs caulk conductors whose number is smaller than that when the terminal has been normally crimped (column 1, lines 33-35); and a second singular point is acquired from said reference waveform and said second poorness waveform (column 6, lines 51-53).

Referring to claim 10, Strong et al. discloses the method as claimed wherein said second singular point is defined by a point where the characteristic value of said second poorness waveform falls below that of said reference waveform as the time of a crimping operation elapses (column 6, lines 44-47). It should be noted that if the core crimping

section misses some of the strands of the wire, the poorness waveform would fall below the reference waveform since less force would be required to crimp the wire due to a smaller overall diameter.

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Strong et al. (5,197,186).

Referring to claim 1, Strong et al. discloses a method for testing the crimped state of a terminal on the basis of a waveform of the characteristic values obtained in the process of crimping the terminal on a core of an electric wire, comprising the steps of: acquiring a reference waveform from the characteristic waveform when the terminal has been crimped normally (column 8, lines 14-15), and dividing the reference waveform into first plural reference waveform segments (column 8, lines 14-15); dividing a characteristic waveform obtained when a terminal to be tested is crimped on the electric wire into a plural segments corresponding to those of the reference waveform (column 8, lines 5-13); and deciding whether or not the crimped state of the terminal is good on the basis of the first reference waveform segments of the reference waveform and the waveform segments of the characteristic waveform (column 8, lines 17-21).

Referring to claim 3, Strong et al. discloses the method as claimed wherein singular points of the reference waveform are previously acquired on the basis of increments of the reference waveform (column 8, lines 14-15); and said first reference waveform segments are located between the singular points (column 8, lines 17-19).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to wire terminal testing.

USPN 5,727,409 to Inoue et al.: This patent shows a method for controlling a terminal crimping apparatus by monitoring load currents and comparing them to reference currents.

USPN 4,812,138 to Kondo et al.: This patent shows a connector terminal for a wire wherein the wire fixing force and contact resistance are monitored.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Dole whose telephone number is 703-305-7396. The examiner can normally be reached on Mon. thru Fri. from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 703-308-0750. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TJD
July 14, 2003

JAY PATIDAR
PRIMARY EXAMINER